

REMARKS

The Official Action mailed December 31, 2002 has been received and its contents carefully noted. Filed concurrently herewith is a *Request for One Month Extension of Time*, which extends the shortened statutory period for response to April 30, 2003. Accordingly, the Applicants respectfully submit that this response is being timely filed.

The Applicants note with appreciation the consideration of the Information Disclosure Statement filed on July 19, 2000.

Claims 1-28 are now pending in the present application, of which claims 1, 4, 8, 10, 12, 15, 19, 21, and 23-28 are independent. The Applicants note with appreciation the allowance of claims 10, 11, 21, and 22. In response to the Official Action, independent claims 1, 4, 8, 12, 15, 19, and 23-28 have been amended to better recite the features of the present invention. For the reasons set forth in detail below, all claims are believed to be in condition for allowance.

Paragraph 2 of the Official Action rejects claims 1, 2, 8, 12, 13, 19, 23, 25, 26, and 28 as anticipated by U.S. Patent No. 5,812,109 to Kaifu et al. The Applicants respectfully submit that an anticipation rejection cannot be maintained against the independent claims of the present invention, as amended. Independent claims 1, 4, 8, 12, 15, 19, and 23-28 have been amended to recite that a plane parallel to a direction of the matrix is divided into at least a first display region and a second display region in the pixel electrode, where the pixel electrode comprises a reflecting material in the first display region and a light-transmitting material in the second display region. Kaifu does not teach all the elements of the independent claims, either explicitly or inherently. Since Kaifu does not teach all the elements of the independent claims, either explicitly or inherently, an anticipation rejection cannot be maintained. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) is in order and respectfully requested.


Paragraph 3 of the Official Action rejects claims 3-7, 9, 14-18, 20, 24, and 27 as obvious based on the combination of Kaifu and U.S. Patent No. 5,585,817 to Itoh et al. The Applicants respectfully submit that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present invention, as amended.

As stated in MPEP §§ 2143-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Itoh does not cure the deficiencies in Kaifu. The Official Action relies on Itoh to teach a plurality of sensor portions disposed in matrix over an opposed substrate constituting a display panel, wherein said sensor portion has a photo-electric conversion device, and can read information by utilizing the rays of light transmitting through said light-transmitting material when an external image is read (p. 8, Paper No. 10). Kaifu and Itoh, either alone or in combination, do not teach or disclose that a plane parallel to a direction of the matrix is divided into at least a first display region and a second display region in the pixel electrode, where the pixel electrode comprises a reflecting material in the first display region and a light-transmitting material in the second display region. Since Kaifu and Itoh do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



Eric J. Robinson
Reg. No. 38,285

Robinson Intellectual Property Law Office, P.C.
PMB 955
21010 Southbank Street
Potomac Falls, Virginia 20165
(571) 434-6789

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend the claims as follows:

1. (Amended) A display device comprising:

a plurality of pixel portions each having an active device and arranged in matrix and each having a pixel electrode [comprising a reflecting material and a light-transmitting material] over a substrate; and

a plurality of sensor portions arranged in matrix over said substrate,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein each of said sensor portions includes a photo-electric conversion device, and can read information by utilizing the rays of light transmitting through said light-transmitting material when an external image is read.

4. (Amended) A display device comprising:

a plurality of pixel portions each having an active device and arranged in matrix and each having a pixel electrode [comprising a reflecting material and a light-transmitting material] over a first substrate; and

a plurality of sensor portions disposed in matrix over a second substrate opposed to said first substrate,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein each of said sensor portions has a photo-electric conversion device, and can read information by utilizing the rays of light transmitting through said light-transmitting material when an external image is read.

8. (Amended) A display device comprising:

a plurality of pixel portions each having an active device and arranged in matrix and each having a pixel electrode [comprising a reflecting material and a light-transmitting material] over a substrate; and

a plurality of sensor portions arranged in matrix over said substrate, wherein each of said sensor portions has a photo-electric conversion device, and at least a part of said photo-electric conversion device is extended in such a manner as to overlap with said active device,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region, and

wherein said pixel electrode comprises a light-transmitting material in said second display region.

12. (Amended) A semiconductor device comprising:

a pixel portion having an active device and a pixel electrode [comprising a reflecting material and a light-transmitting material] over a substrate; and

a sensor portion provided over said substrate and comprising a photo-electric conversion device,

wherein said active device and said pixel electrode and said photo-electric conversion device are provided in one of pixels arranged in matrix, [and]

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein said sensor portion can read information by utilizing the rays of light transmitting through said light-transmitting material when an external image is read.

15. (Amended) A semiconductor device comprising:

a first substrate and a second substrate opposed to said first substrate;

a pixel portion having an active device and a pixel electrode [comprising a reflecting material and a light-transmitting material] over said first substrate; and

a sensor portion provided over said second substrate and comprising a photo-electric conversion device,

wherein said active device and said pixel electrode and said photo-electric conversion device are provided in one of pixels arranged in matrix, [and]

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein said sensor portion can read information by utilizing the rays of light transmitting through said light-transmitting material when an external image is read.

19. (Amended) A semiconductor device comprising:

a pixel portion having an active device and a pixel electrode [comprising a reflecting material and a light-transmitting material] over a substrate; and

a sensor portion provided over said substrate and having a photo-electric conversion device,

wherein said active device and said pixel electrode and said photo-electric conversion device are provided in one of pixels arranged in matrix, and

wherein at least a part of said photo-electric conversion device is extended in such a manner as to overlap with said active device,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region, and

wherein said pixel electrode comprises a light-transmitting material in said second display region.

23. (Amended) A display device comprising:

a plurality of pixel portions each having an active device and arranged in matrix and each having a pixel electrode [comprising a reflecting part and a light-transmitting part] over a substrate; and

a plurality of sensor portions arranged in matrix over said substrate,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein each of said sensor portions includes a photo-electric conversion device, and can read information by utilizing the rays of light transmitting through said light-transmitting [part] material when an external image is read.

24. (Amended) A display device comprising:

a plurality of pixel portions each having an active device and arranged in matrix and each having a pixel electrode [comprising a reflecting part and a light-transmitting part] over a first substrate; and

a plurality of sensor portions disposed in matrix over a second substrate opposed to said first substrate,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein each of said sensor portions has a photo-electric conversion device, and can read information by utilizing the rays of light transmitting through said light-transmitting [part] material when an external image is read.

25. (Amended) A display device comprising:

a plurality of pixel portions each having an active device and arranged in matrix and each having a pixel electrode [comprising a reflecting part and a light-transmitting part] over a substrate; and

a plurality of sensor portions arranged in matrix over said substrate, wherein each of said sensor portions has a photo-electric conversion device, and at least a part of said photo-electric conversion device is extended in such a manner as to overlap with said active device,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region, and

wherein said pixel electrode comprises a light-transmitting material in said second display region.

26. (Amended) A semiconductor device comprising:

a pixel portion having an active device and a pixel electrode [comprising a reflecting part and a light-transmitting part] over a substrate; and

a sensor portion provided over said substrate and comprising a photo-electric conversion device,

wherein said active device and said pixel electrode and said photo-electric conversion device are provided in one of pixels arranged in matrix, and

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein said sensor portion can read information by utilizing the rays of light transmitting through said light-transmitting [part] material when an external image is read.

27. (Amended) A semiconductor device comprising:

a first substrate and a second substrate opposed to said first substrate;

a pixel portion having an active device and a pixel electrode [comprising a reflecting part and a light-transmitting part] over said first substrate; and

a sensor portion provided over said second substrate and comprising a photo-electric conversion device,

wherein said active device and said pixel electrode and said photo-electric conversion device are provided in one of pixels arranged in matrix, and

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode,

wherein said pixel electrode comprises a reflecting material in said first display region,

wherein said pixel electrode comprises a light-transmitting material in said second display region, and

wherein said sensor portion can read information by utilizing the rays of light transmitting through said light-transmitting [part] material when an external image is read.

28. (Amended) A semiconductor device comprising:

a pixel portion having an active device and a pixel electrode [comprising a reflecting part and a light-transmitting part] over a substrate; and

a sensor portion provided over said substrate and having a photo-electric conversion device,

wherein said active device and said pixel electrode and said photo-electric conversion device are provided in one of pixels arranged in matrix, and

wherein at least a part of said photo-electric conversion device is extended in such a manner as to overlap with said active device,

wherein a plane parallel to a direction of said matrix is divided into at least a first display region and a second display region in said pixel electrode.

wherein said pixel electrode comprises a reflecting material in said first display region, and

wherein said pixel electrode comprises a light-transmitting material in said second display region.